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भारतीय मानक

कृषि वाहन — कर्षण वाहनों में यान्त्रिक संयोजन

भाग 3 ट्रैक्टर ड्राबार

( पहला पुनरीक्षण )

*Indian Standard*

AGRICULTURAL VEHICLES — MECHANICAL  
CONNECTIONS ON TOWING VEHICLES

PART 3 TRACTOR DRAWBAR

( *First Revision* )

UDC 631.373 : 629.114.3.013.83

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## NATIONAL FOREWORD

This Indian Standard, which is identical with ISO 6489-3 : 1992 'Agricultural vehicles — Mechanical connections on towing vehicles — Part 3 : Tractor drawbar', issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Agricultural Tractors and Power Tillers Sectional Committee (FAD 32) and approval of the Food and Agriculture Division Council.

IS 12362 : 1988, Technical requirement for towing connection of agricultural tractors was prepared based on ISO 6489/1 : 1980 Agricultural Vehicles — Mechanical connection on towing vehicles — Part 1 : Hook type and ISO 6489/2 : 1980, Agricultural vehicles — Mechanical connection on towing vehicles — Part 2 : Clevies type. Now ISO 6489 has been revised into following three parts:

ISO 6489 (Part 1) Agricultural vehicles — Mechanical connection on towing vehicles — Part 1 : Hook type

ISO 6489 (Part 2) Agricultural vehicles — Mechanical connection on towing vehicles — Part 2 : Clevies type and

ISO 6489 (Part 3) Agricultural vehicles — Mechanical connection on towing vehicles — Tractor draw-bar

In order to make it more implementable and to align with the corresponding above mentioned International Standards IS 12362 : 1988 is revised. In revision of IS 12362 : 1988 the three parts of ISO 6489 have been adopted as dual number standards with splitting IS 12362 into following three parts:

IS 12362 (Part 1) Agricultural vehicles — Mechanical connection on towing vehicles — Part 1 : Hook type

IS 12362 (Part 2) Agricultural vehicles — Mechanical connection on towing vehicles — Part 2 : Clevies type

IS 12362 (Part 3) Agricultural vehicles — Mechanical connection on towing vehicles — Tractor drawbar

In the adopted standard certain terminology and conventions are not identical with those used in the Indian Standards; attention is drawn specially to the following:

- a) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.
- b) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

In this Indian Standard, the following International Standards have been referred. The list of corresponding Indian Standards are given below:

<i>International Standard</i>	<i>Indian Standard</i>	<i>Degree of Correspondence</i>
ISO 500 : 1991 Agricultural tractors — Rear-mounted power take-off — Types 1, 2 and 3	IS 4931 : 1993 Technical requirements for power take-off of agricultural tractors	Technically equivalent
ISO 730-1 : 1990 Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 1 : Categories 1, 2 and 3	IS 4468 (Part 1) : 1993 Agricultural wheeled tractors — Rear-mounted three point linkage : Part 1 Categories 1, 2 and 3	Identical

## *Indian Standard*

# AGRICULTURAL VEHICLES — MECHANICAL CONNECTIONS ON TOWING VEHICLES

## PART 3 TRACTOR DRAWBAR

( *First Revision* )

### 1 Scope

This part of ISO 6489 specifies the dimensional requirements, location and vertical static loads for drawbars on agricultural tractors.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 6489. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 6489 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 500:1991, *Agricultural tractors — Rear-mounted power take-off — Types 1, 2 and 3*.

ISO 730-1:1990, *Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 1: Categories 1, 2 and 3*.

### 3 Dimensions and location

The tractor drawbar dimensions are related to the three categories specified in ISO 730-1.

The hitch end of the tractor drawbar shall normally be designed as a clevis.

When the drawbar is positioned in the longitudinal mid-plane of the tractor, the relationship between the location of the power take-off (PTO) as defined in ISO 500 and the drawbar shall comply with figure 1 and table 1.

For special applications, other drawbar locations may be used (see annex A).

It shall be possible to secure swinging drawbars in the longitudinal mid-plane position.

### 4 Vertical static loads

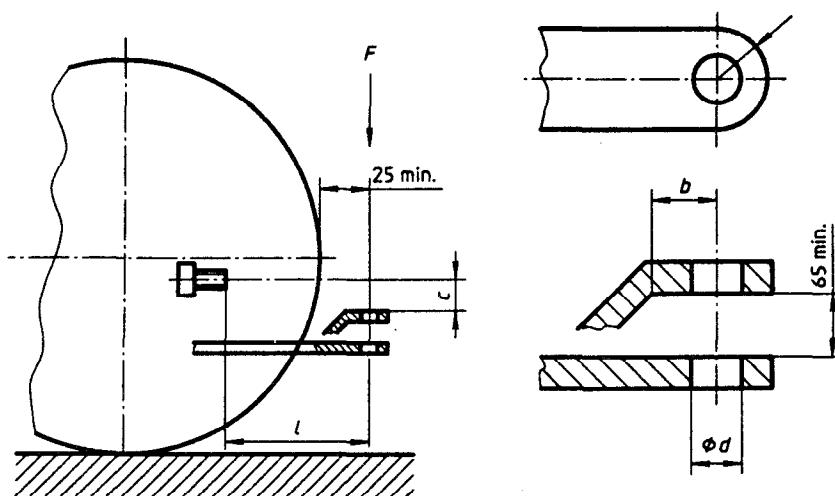
The static load according to table 1 is the minimum load the tractor drawbar shall be able to withstand or conversely the maximum static load which equipment may impose upon the tractor drawbar.

The dynamic loads imposed upon the tractor drawbar and equipment hitch will be considerably higher than the static load ratings. These loads are also subject to consideration being given to the capacity of tyres and to other aspects of tractor specifications and the conditions relating to its use.

For special applications, other vertical static loads may be used (see annex A).

NOTE 1 Requirements for tractor drawbars may be subject to legal provisions by governmental authorities.

Dimensions in millimetres



**Figure 1 — Location and dimensions of drawbar**

**Table 1 — Drawbar dimensions, location and vertical load**

Dimensions in millimetres

Category according to ISO 730-1	Clevis dimensions		Clevis envelope $r$ <sup>1)</sup> max.	Location		Vertical load (see clause 4) $F$ kN
	$d$ $+1$ 0	$b$ min.		$c$ <sup>2)</sup> min.	$l$ $\pm 10$	
1	33	60	70	200	400	8
2	33	60	70	220	400	12
3	33	70	80	250	500	15

- 1) The clevis may have any configuration within the envelope defined by radius  $r$  (see figure 1).
- 2) For special applications, the top portion of the clevis may be removed to maintain dimension  $c$ .

## Annex A (normative)

### Drawbar locations for special applications

For special applications, other drawbar locations and related vertical loads can be used, for example

— a "short" position, intended to connect non-PTO-driven equipment which applies a high vertical load to the drawbar; or

— an "extended" position, intended for a special PTO drive-shaft condition where equal angularity of the drive-shaft joints cannot be obtained using the normal position.

In such cases the drawbar length and the vertical loads given in table A.1 shall be used.

**Table A.1 — Drawbar locations for special applications**

Dimensions in millimetres

Category according to ISO 730-1	Location (see figure 1) <i>l</i> $\pm 10$		Vertical load (see clause 4) <i>F</i> kN	
	Short position <sup>1)</sup>	Extended position	Short position	Extended position
1	250	500	15	6,5
2	250	550	22,5	8
3	350	650	27	10

1) 25 mm minimum dimension shown in figure 1 does not apply.

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